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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/911,683 | 07/24/2001 | Gerrit Klaerner | SMX 3093.3 | 4375 |

321 7590 02/12/2004

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER

CEPERLEY, MARY

ART UNIT PAPER NUMBER

1641

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/911,683

Applicant(s)

KLAERNER ET AL.

Examiner

Mary (Molly) E. Ceperley

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-31 is/are pending in the application.
- 4a) Of the above claim(s) 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 17-27 and 29-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) g.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1641

1) The terminal disclaimer filed on November 19, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent issued on application serial nos. 10/043,394 and/or 09/609,461 has been reviewed and is accepted. The terminal disclaimer has been recorded.

2) Newly submitted claim 28 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The sensor of claim 28 corresponds to the product of non-elected invention II which is distinct from the elected and examined method of preparation of invention V for the reasons set forth in the restriction requirement of January 31, 2003 (paragraph **3**). Additionally, an examination on the merits of the product of claim 28 (presumably a product by process claim?) would be burdensome for the reason that it would involve patentability considerations not present in an examination of the method of preparation, namely, a consideration of the patentability of the product made by any process (i.e. not limited to the process of claim 17). See MPEP 2113. Applicants' statement (Remarks of November 11, 2003, page 8) that the claims now presented differ in exact scope from the originally presented and restricted claims is noted. However, the basic reasoning for the restriction requirement as set forth in the January 31, 2003 Office action still applies.

For future reference, it is noted that if applicants had elected a product claim which was found to be allowable, a method of preparation claim of the same scope would be rejoined with the allowed product claim (see paragraph **7**) of the restriction requirement).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 28 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. Claims 17-27 and 29-31 are treated on the merits in this Office action.

3) The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 1641

4) Claims 17-27 and 29-31 are again rejected under 35 U.S.C. 112, first paragraph, for the reason set forth in paragraph **7)** of the May 19, 2003 Office action. Applicants point to pages 39-40 and Example 18 in support of their position that the term "homolytic cleavage of the Y-S bond" is equivalent to "UV initiated cleavage of the Y-S bond". However, no such equivalence can be ascertained from a reading of these sections nor any other section of the specification. Example 18, *3-Synthesis of polymer brushes*, provides the only description of the use of a "UV lamp". However, in this instance it is not at all clear that the lamp is being used to cleave the Y-S bond of "an initiator-control agent adduct" of the formula of claim 17. With regard to the description of pages 39-40 it is unclear exactly what reaction is "triggered by UV initiation".

It is further noted that the language of claim 17 "Y is a residue capable of initiating free radical polymerization upon UV initiated cleavage of the Y-S bond" does not require that any such "cleavage" take place. The "reaction conditions to form bound polymer chains" of claim 17 can involve the reaction of any of the bonds of the "initiator-control agent adduct" including the S-C, S-G, and G-? bonds of the depicted formula.

5) The amendment filed November 19, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the change of "homolytic" to "UV initiated" in the paragraphs of pages 5 and 6 of the specification.

Applicants are required to cancel the new matter in the reply to this Office Action.

6) Claims 17-27 and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is

Art Unit: 1641

no written description to support the claim 17 limitation "at least one of said monomers does not have a functionalized site for reaction with said probe". The description of page 47, lines 13-23 of the specification (cited for support by applicants) describes useful ratios of "functional group containing monomer to non-functional group containing monomer" but provides no description of nor support for the claim limitation "at least one of said monomers does not have a functionalized site for reaction with said probe". Page 6, lines 16-19 of the specification describes "bound polymer chains" which have "one or more active functionalized sites thereon" but there is no description of the claim 17 limitation "at least one of said monomers does not have a functionalized site".

The ratio limitations of claim 29-31 are also not described by the specification. See page 47, lines 19-23 of the specification which describes "useful ranges of functional group containing monomer relative to the total amount...of monomer added to the polymerization system", language which is not used in claims 29-31.

7) Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

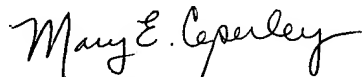
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1641

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary (Molly) E. Ceperley whose telephone number is (571) 272-0813. The examiner can normally be reached from 8 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le, can be reached on (571) 272-0823.

February 10, 2004



Mary (Molly) E. Ceperley
Primary Examiner
Art Unit 1641